

ATTACHMENT B
Amendments to the Claims

Please cancel claim 2 without prejudice or disclaimer.

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended) Equipment for cleaning the rubber cylinders ~~(C1, C2)~~ of continuous printing machines, said equipment comprising:

_____ characterized in that it comprises a cleaning device with means (17, 18) for causing a very small quantity of liquid for cleaning the said cylinders to be sprayed in a controlled and uniformly distributed way on to onto a sufficiently long portion piece of cloth, which the cloth, including the area directly acted on by the said sprayed liquids liquid, is kept in uniform and distributed contact with a transverse portion of the a surface of the cylinder to be cleaned;

_____ and which is pushed a rectilinear deformable strip; and
_____ a rectilinear deformable presser,

_____ wherein the rectilinear deformable strip and the rectilinear deformable presser, respectively, are adapted to push the cloth into close and uniformly distributed contact with the a rotating cylinder, upstream and downstream of this the transverse portion, by a rectilinear deformable strip (6) and by a rectilinear deformable presser (9) using the rectilinear deformable strip and the rectilinear deformable presser, respectively, the

rectilinear deformable strip and the rectilinear deformable presser each of these having a convex surface facing the cylinder;

the deformable presser comprising an elastomeric membrane with a profile substantially in the form of an isosceles trapezium whose longer base is fixed perimetrically and with a seal to an edge having a conjugate profile of a chamber (H) of a cross-piece fixed on the equipment, a shorter base of the membrane having a profile which is initially slightly convex in the direction of the cylinder to be cleaned and has a low-relief shape; and

wherein the whole being cleaning device is arranged in such a way so that the cleaning liquid acts through the cloth on the cylinder to be cleaned in an extended, uniform and progressive way, and in very small quantities, and in such a way so that the liquid is conveniently retained in the a cleaning area by means of the said cloth and the said rectilinear pushing elements deformable presser and rectilinear deformable strip, so that it the cloth does not fall off and so that it the cloth is put in contact with transferred to the dirt on the cylinder in a gradual and controlled way, while the presser (9) facilitates the penetration of the liquid into the direct cloth and promotes the elimination and removal of the said dirt by its contact surface which is characterized by a low-relief configuration, to provide better distribution of the cleaning liquid, to provide a better mechanical action for cleaning the cylinder and to enable a large quantity of the paper particles, which constitute the dirt removed from the cylinder, to be retained in its channels.

2. (Canceled)

3. (Currently Amended) Equipment The equipment according to Claim claim 1, characterized in that wherein the low-relief shape of the an active surface of the presser (9) comprises solid areas (109) designed to come into contact with the cloth and comprises recessed areas (209) arranged in a sinuous pattern, ~~which form true~~ the recessed areas forming channels of suitable depth, into which the cloth penetrates under the pressure of the from solid dirt which accumulates on these portions of the cloth not in contact with the said solid parts ~~areas (109), and~~ the said channels (209) being characterized by having a shape which is originally suitably initially outwardly diverging, so that, following the elastic deformation of the said surface of the presser in contact with the cylinder to be cleaned, ~~the said channels remain conveniently open, to allow the cloth and the dirt to enter them and become self-compacted in them and then to emerge from the said channels easily when the whole equipment is removed from the clean cylinder at the end of the cycle.~~

4. (Currently Amended) Equipment The equipment according to Claim claim 3, in which the projecting parts (109) of the active surface of the presser (9) contact the cloth (4) by means of small round studs which are spaced at equal intervals in a plurality of rows aligned with the longitudinal axis of the presser (9), the rows being parallel to each other and staggered by half a step, ~~in such a way so~~ that the studs of one row are positioned in the empty space lying between two consecutive studs of the adjacent rows

and the width of this empty space being made to be less than the width of each stud, in such a way that the various studs of the projecting parts (109) are made to act jointly on the rubber cylinder in a uniform way, over the whole width of the area to be cleaned.

5. (Currently Amended) ~~Equipment~~ The equipment according to Claim claim 4, in which wherein the number of longitudinal rows of projecting parts (109) of the an elastic membrane (9) of the presser is, ~~for example~~, ten.

6. (Currently Amended) ~~Equipment~~ The equipment according to Claim claim 4, in which wherein the projecting parts (109) of the active surface of the presser (9) are also aligned with each other in oblique rows, ~~for example with an inclination (A) of~~ approximately 30° to the transverse axis of the said presser, and each oblique row comprises ten projections (109).

7. (Currently Amended) ~~Equipment~~ The equipment according to Claim claim 3, in which wherein each of the projecting parts (109) part of the active surface of the presser (9) is formed by a point (109') of having a truncated conical shape, with an extraction angle (C) of approximately 20° and a base which ~~is also of~~ has a truncated conical shape (109'') and has an extraction angle (E) of approximately 90°, the bases of the various projecting parts being joined together to form hexagonal patterns similar to those of a honeycomb.

8. (Currently Amended) ~~Equipment~~ The equipment according to Claim 3, in which the claim 7, wherein bases ~~(109)~~ of the projecting parts ~~(109)~~ in the outer longitudinal rows of the active surface of the presser ~~(9)~~ are joined to this the active surface by an outer shape which is semi-elliptical in plan view ~~(109)~~.

9. (Currently Amended) ~~Equipment~~ The equipment according to claim 1, characterized in that wherein the width (L1) of the a low-relief active surface of the an elastic membrane of the presser ~~(9)~~ is approximately 25 mm, while and the total width of the ~~said~~ membrane is approximately 42 mm.

10. (Currently Amended) ~~Equipment~~ The equipment according to claim 3, in which the wherein round studs of the points of the projecting parts ~~(109)~~ of the active surface of the presser ~~(9)~~, which contact the cleaning cloth ~~(4)~~, are flat, are spaced apart in each row with an interval of approximately 3 mm, have a diameter of approximately 2 mm each and have a height of approximately 0.5 mm.

11. (Currently Amended) ~~Equipment~~ The equipment according to Claim claim 5, in which wherein the projecting parts ~~(109)~~ of the active surface of the presser ~~(9)~~ have their respective active surfaces at the following vertical distances above a theoretical

base plane (G), from the outside towards the ~~centre~~ center: H1 = 1 mm, H2 = 1.4 mm, H3 = 1.7 mm, H4 = 1.9 mm, H5 = 2 mm.

12. (Currently Amended) Equipment The equipment according to ~~Claim~~ claim 5, in which wherein the longitudinal rows of ~~the~~ projecting parts ~~(409)~~ of the active surface of the presser ~~(9)~~ are at the following horizontal distances from a longitudinal mid-line plane (Q), from the innermost rows towards the outside: M5 = 1. 3 mm, M4 = 3. 9 mm, M3 = 6. 5 mm, M2 = 9.09 mm, M1 = 11.69 mm.

13. (Currently Amended) Equipment The equipment according to claim 1, characterized in that it comprises further comprising:

_____ at least one robust rectilinear bar ~~(5)~~, parallel to each rubber cylinder ~~(C1, C2)~~ and movable on command towards and away from ~~the cylinder, the~~ respective cylinders, ends of the bar being fixed to shoulders ~~(4)~~ which extend away from the cylinder and which support the ends; and

_____ and the means of for driving and braking ~~the~~ shafts of reels ~~(2, 3)~~ which are parallel to the ~~said~~ bar and designed to feed and collect the ~~fabric or cloth~~ ~~(4)~~ which runs, with the correct desired tension, over ~~the~~ a concave front surface of the ~~said~~ bar, which is the concave front surface concave and which is provided, at its suitably having rounded upper and lower edges ~~(105, 205)~~ and parallel to these, with and having a sealing strip ~~(6)~~ and a presser ~~(9)~~ respectively, parallel to the rounded upper and lower

edges, both of these the sealing strip and the presser being rectilinear and made from elastomeric material, the said front concave surface of the bar having seats (16) formed at a correct distance from the a portion of the cloth which is not acted on by the presser (9) and which lies between the presser (9) and the pressure strip (6), these the seats having nozzles (17) connected to a distribution circuit (18) and to the means for spraying the a cleaning liquids liquid on command in a controlled, continuous and uniformly distributed way, so that when the equipment in question is brought towards the cylinder to be cleaned the portion of cloth lying between the said strip and the presser remains in tension and comes into contact uniformly with a corresponding portion of the dirty surface of the cylinder, while both the strip and the presser are deformed elastically in contact with the cylinder through the cloth, to retain the cleaning liquids and to prevent these from falling from the working area.

14. (Currently Amended) Equipment The equipment according to Claim claim 13, characterized in that it is designed in such a way that the wherein a length of the portion of cloth positioned in front of the an active surface of the presser (9) is substantially equal to the a length of the portion of cloth positioned in front of the a row of the nozzles (17) for spraying the cleaning liquid and lying between the said presser and the elastomeric sealing strip (6).

15. (Currently Amended) Equipment The equipment according to Claim claim 13, in which wherein the pressure and sealing strip (6) is formed by has a tubular rubber

section having a profile substantially in the shape of a figure of eight, partially housed in a suitable rectilinear recess (7) formed in the front concave surface of the bar (5), and partially projecting from this recess to contact the said cloth (4).

16. (Currently Amended) ~~Equipment~~ The equipment according to ~~Claim claim~~ 13, in which wherein the pressure and sealing strip (6) is of the simple type, with has a single cavity and having a continuous longitudinal thickening (106) in the a part designed for contact with the cloth (4).

17. (Currently Amended) ~~Equipment~~ The equipment according to claim 2, in which the 13, wherein a cross-piece (10) which supports the elastomeric membrane (9) of the presser which acts on the cloth (4) downstream of the an area in which the cleaning liquids liquid is sprayed, the cross-piece being is mounted in a seat (12, 112) formed in the movable rectilinear bar (5) of the said equipment with correct proper bottom clearances (11, 111) and by means of at least one pair of pins (13) positioned symmetrically in such a way that the said presser is made to exert a uniformly distributed pressure on the cylinder to be cleaned.

18. (Currently Amended) ~~Equipment~~ The equipment according to claim 1, characterized in that, in order to clean the opposing cylinders (C1, C2) of a continuous printing machine which operates on a continuous paper web arranged in a substantially

vertical-way and running, for example, in an upward direction, the said equipment comprises at least one corresponding device (D1, D2) of the type in question, further comprising at least a second one of the cleaning devices, the cleaning devices arranged as mirror images of each other, in the quadrant lying between 12 and 3 o'clock for the a right-hand cylinder and in the quadrant lying between 12 and 9 o'clock for the a left-hand cylinder, means being provided to keep the cleaning devices in the active position of interaction with the cylinders while the cylinders remain active and in contact with the continuous paper web (N) which is used as the means for removing and eliminating the dirt softened by the said cleaning devices, the said cleaning devices being made to be removed from the said cylinders on completion of the cleaning of the cylinders, in such a way that the dirt collected by the a portion of cloth positioned in front of the presser-(9) and the residual liquid fall into a tray-(20) positioned under each cleaning device and designed so that it can be cleaned in its turn.

19. (Currently Amended) Equipment The equipment according to Claim claim 18, in which further comprising means ~~are provided~~ to cause the cleaning devices (D1, D2) to be carried in successive active movements of interaction with the corresponding cylinders ~~(C1, C2)~~ without substantially modifying the position of the cloth-(4) in front of the corresponding presser-(9), ~~in such a way so~~ that the said cloth is used thoroughly, in a way compatible with its resistance to wear, means being provided to cause the cloth (4) of each cleaning device to be made to advance longitudinally only after a plurality of operating cycles, to remove the a part of the cloth positioned in front of the presser-(9)

and to replace ~~it the part of the cloth~~ with the a portion of the cloth which was previously positioned in front of the nozzles (17) for ~~spraying the cleaning liquids~~.

20. (Currently Amended) Equipment The equipment according to Claim claim 19, in which further comprising means are provided to cause the a portion of cloth lying between the a feed reel (2) and the a collection reel (3) to be brought to the correct a desired longitudinal tension when the cleaning devices are moved away from the corresponding cylinders, to facilitate the detachment of the dirt from the cloth.

21. (Currently Amended) Equipment The equipment according to Claim claim 18, in which wherein the means which keep the cleaning devices (D1, D2) in the active position of interaction with the cylinders to be cleaned are such that provide a continuous and/or variable modulated pressure ~~is provided to the said devices~~.

22. (Currently Amended) Equipment The equipment according to claim 1, characterized in that it can also be used for cleaning the cylinders of continuous printing machines which operate on a paper web arranged in a substantially horizontal way, further comprising at least a second cleaning device, wherein one of the cleaning device (D4) devices which acts on the an upper cylinder (C1) being is positioned in this case in the a quadrant of this the respective cylinder lying between 1 and 3 o'clock, while the a

lower one of the cleaning device (D2) devices is, for example, positioned in the a quadrant of the lower cylinder (C2) lying between 3 and 5 o'clock.

23. (Currently Amended) ~~Equipment~~ The equipment according to claim 1, characterized in that, for cleaning cylinders which are particularly dirty or between which the paper web (N) is not to be passed to remove the dirt, further comprising means can be provided to cause the said cylinders to be cleaned with a number of movements of the corresponding cleaning devices (D1, D2) towards and away from the cylinders.

24. (New) The equipment according to claim 3, wherein following elastic deformation of the surface of the presser in contact with the cylinder to be cleaned, the channels remain open, to allow the cloth and the dirt to enter them and become self-compacted in them and then to emerge from the channels easily when the whole equipment is removed from the clean cylinder at the end of the cycle.

25. (New) The equipment according to claim 6, wherein the active surface of the presser has an inclination (A) of approximately 30° to the transverse axis of the said presser.